

CLAIMS

1. A lock system for releasably maintaining a movable closure element
in one of two different positions for the movable closure element relative to a
support for the movable closure element, the lock system comprising:
a latching assembly having a first state and a second state,
the latching assembly in the first state releasably engageable with a part on
the support to thereby releasably maintain the movable closure element with which
the lock system is associated in the one position,
the latch assembly comprising a first element that is changed from a first
position into a second position to thereby cause the latching assembly to be
changed from the first state into the second state whereupon a movable closure
element with which the lock system is associated can be moved from the one
position into the other of the two different positions; and
an actuating system for the latching assembly,
the actuating system comprising a first actuating assembly that is
changeable from a first state into a second state by movement of a part of the first
actuating assembly in an operating path to thereby cause the first element to be
changed from the first position into the second position,
the actuating system further comprising a blocking assembly having a first
state and a second state,

20 the blocking assembly in the first state allowing the first actuating assembly
to be changed from the first state into the second state,

22 the blocking assembly in the second state blocking the operating path to
prevent the part of the first actuating assembly from being changed from the first
24 position into the second position and thereby the first actuating assembly from
being changed from the first state into the second state.

2. The lock system according to claim 1 in combination with a movable
2 closure element upon which the lock system is operatively mounted.

3. The lock system according to claim 2 further in combination with a
2 support relative to which the movable closure element is mounted for movement
between the two different positions.

4. The lock system according to claim 3 wherein the support comprises
2 a strike assembly with a part that is releasably engaged by the latch assembly with
the latch assembly in the first state to thereby releasably maintain the movable
4 closure element in the one position.

5. The lock system according to claim 4 wherein the latching assembly
2 comprises at least one rotor with a receptacle for the part of the strike assembly,

the at least one rotor pivotable around an axis between a latched position and a
4 release position, the at least one rotor in the latched position with the latching
assembly in the first state and in the release position with the latching assembly
6 in the second state.

6. The lock system according to claim 1 wherein the latching assembly
2 comprises a second actuating assembly for changing the blocking assembly
between the first and second states.

7. The lock system according to claim 6 wherein the second actuating
2 assembly is operable to change the blocking assembly between the first and
second states in response to transmission of an electrical signal from an input.

8. The lock system according to claim 7 wherein the second actuating
2 assembly comprises a drive that is operable in response to a transmission of the
electrical signal from the input to the first actuator.

9. The lock system according to claim 7 wherein the input comprises
2 a key pad.

10. The lock system according to claim 7 wherein the input comprises
a wireless transmitter for the electrical signal.

11. The lock system according to claim 7 wherein the input comprises
a wired switch.

12. The lock system according to claim 6 wherein the first actuating
assembly comprises a push button actuator that is movable from a normal position
into an actuated position to change the first actuating assembly from the first state
into the second state.

13. The lock system according to claim 12 wherein the part of the first
actuating assembly is translated in the operating path to drive the first element
from the first position into the second position.

14. The lock system according to claim 13 wherein the first actuating
assembly is changeable from the first state into a third state to thereby change the
blocking assembly into the first state.

15. The lock system according to claim 14 wherein the first actuating
2 assembly is changeable from the first state into a fourth state to thereby change
the blocking assembly into the second state.

16. The lock system according to claim 14 wherein the actuating system
2 comprises a second actuating assembly for changing the blocking assembly
between the first and second states.

17. The lock system according to claim 16 wherein the push button
2 actuator is movable from the normal position into the actuated position along a first
line and the first actuating assembly is changeable from the first state into the third
4 state by pivoting movement of the push button actuator around a first axis that is
substantially parallel to the first line.

18. The lock system according to claim 17 wherein the first actuating
2 assembly comprises a cam element that engages a first surface on the blocking
assembly and changes the blocking assembly from the second state into the first
4 state as an incident of the first actuating assembly changing from the first state
into the third state.

19. The lock system according to claim 18 wherein the blocking
assembly comprises a plate that is pivotable about a second axis that is
substantially parallel to the first axis between a first position with the blocking
assembly in the first state and a second position with the blocking assembly in the
second state.

20. The lock system according to claim 19 wherein the plate has a wall
having a surface residing substantially in a first plane and the first surface projects
angularly away from the first plane.

21. The lock system according to claim 20 wherein the blocking
assembly comprises a second surface that projects angularly away from the first
plane and is spaced from and faces the first surface and the cam element
engages the second surface and changes the blocking assembly from the first
state into the second state as an incident of the first actuating assembly changing
from the first state into a fourth state, wherein the plate is in the second position.

22. The lock system according to claim 21 wherein with the blocking
assembly in the first state, the part of the first actuating assembly is movable along
the first line towards and past the first plane to engage and cause the first element

4 to be changed from the first position into the second position as the push button
actuator is moved from the normal position into the actuated position.

23. The lock system according to claim 21 wherein with the blocking
2 assembly in the second state, the part of the first actuating assembly is blocked
by the plate wall from moving in the operating path to cause the first element to be
4 changed from the first position into the second position.

24. The lock system according to claim 18 wherein the cam element
2 projects in cantilever fashion away from the first axis in a direction transverse to
the first line.

25. The lock system according to claim 18 wherein a portion of the first
2 actuating assembly is pivotable around the first axis to change the first actuating
assembly from the first state into the third state.

26. The lock system according to claim 19 wherein a portion of the first
2 actuating assembly is a) pivotable around the first axis in a first direction to change
the first actuating assembly from the first state into the third state and b) pivotable
4 around the first axis in a direction opposite to the first direction to change the first
actuating assembly from the first state into the fourth state.

27. The lock system according to claim 26 wherein the portion of the first
2 actuating assembly comprises the push button actuator.

28. The lock system according to claim 27 wherein the push button
2 actuator is pivoted around the first axis in the first direction to a first position to
change the first actuating assembly from the first state into the third state and
4 pivoted in a direction opposite to the first direction to a second position to change
the first actuating assembly from the first state into the fourth state, and the push
6 button actuator is spring biased to a resting position between the first and second
position.

29. The lock system according to claim 28 wherein the push button
2 actuator has an associated key operated cylinder that moves guidingly within a
case and with a key operatively inserted into the cylinder, the push button actuator
4 can be pivoted between the first and second positions.

30. The lock system according to claim 28 wherein the key can be
2 removed from the cylinder with the push button actuator in the third position and
cannot be removed from the cylinder with the push button actuator in either of the
4 first and third positions.

2 31. The lock system according to claim 29 wherein the first actuating
assembly further comprises a housing, the push button actuator is mounted for
movement relative to the housing between the normal position and actuated
4 position and the push button actuator and housing are keyed to each other against
relative movement around the first axis.

2 32. The lock system according to claim 31 wherein the push button
actuator and housing are selectively keyed to each other against relative pivoting
around the first axis in two different relative positions.

2 33. The lock system according to claim 31 wherein the housing defines
a graspable handle.

2 34. The lock system according to claim 1 wherein the first actuating
system comprises a self-contained module that is separate from the blocking
assembly.

2 35. A lock system for releasably maintaining a movable closure element
in one of two different positions for the movable closure element relative to a
support for the movable closure element, the lock system comprising:

4 a latching assembly having a first state and a second state,
the latching assembly in the first state releasably engageable with a part of
6 the support to thereby releasably maintain the movable closure element with which
the lock system is associated in the one position,

8 the latch assembly comprising a first element that is changed from a first
position into a second position to thereby cause the latching assembly to be
10 changed from the first state into the second state whereupon a movable closure
element with which the lock system is associated can be moved from the one
12 position into the other of the two different positions; and

an actuating system for the latching assembly,

14 the actuating system comprising a first actuating assembly that is
changeable from a first state into a second state by movement of a part of the first
16 actuating assembly in an operating path to thereby cause the first element to be
changed from the first position into the second position,

18 the actuating system further comprising a blocking assembly having a first
state and a second state,

20 the blocking assembly in the first state allowing the first actuating assembly
to be changed from the first state into the second state,

22 the blocking assembly in the second state blocking the operating path to
prevent the part of the first actuating assembly from being changed from the first

24 position into the second position and thereby the first actuating assembly from
being changed from the first state into the second state,
26 the actuating system further comprising a second actuating assembly for
changing the blocking assembly between the first and second states,
28 wherein the part of the first actuating assembly is translated in the operating
path and drives the first element from the first position into the second position as
30 an incident of the first actuating assembly changing from the first state into the
second state.

36. The lock system according to claim 35 wherein the first actuating
2 system comprises a self-contained module that is separate from the blocking
assembly.

37. The lock system according to claim 36 wherein the self-contained
2 module can be installed as a unit and operably assembled with the blocking
assembly without requiring any separate fastener acting between the blocking
4 assembly and first actuating assembly.

38. The lock system according to claim 37 wherein the first actuating
2 assembly and blocking assembly are changeable from a fully separated state into

an operably assembled state by relative translational movement between the first
4 actuating assembly and blocking assembly.

39. The lock system according to claim 38 wherein the first actuating
2 assembly comprises a push button actuator.